Year 4 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2021-June 30, 2022

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2021 and June 30, 2022 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Arlington

EPA NPDES Permit Number: MAR041027

Primary MS4 Program Manager Contact Information

Name: Wayne A. Chouinard, P.E. Title: Town Engineer

Street Address Line 1: 51 Grove Street

Street Address Line 2:

City: Arlington State: MA Zip Code: 02476

Email: wchouinard@town.arlington.ma.us Phone Number: (781) 316-3321

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://www.arlingtonma.gov/departments/public-works/engineering/stormwater-information

Date SWMP was Last Updated: September 2022

If the SWMP is not available on the web please provide the physical address:

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state

Impairment(s)

☒ Bacteria/Pathogens ☒ Chloride ☐ Nitrogen ☒ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State: ☐ Assabet River Phosphorus ☐ Bacteria and Pathogen ☐ Cape Cod Nitrogen
☒ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State: ☐ Bacteria/Pathogens ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. ***By checking each box you are certifying that you have completed that permit requirement fully.*** *If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 4 Requirements

☒ Developed a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover, made it available as part of the SWMP, and:

- ○ No updates were recommended
- ◉ Updates were recommended. The anticipated date or date of completion for updates is/was:

June 30, 2024

☒ Developed a report assessing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist, made it available as part of the SWMP, and:

- ○ No updates were recommended
- ◉ Updates were recommended. The anticipated date or date of completion for updates is/was:

June 30, 2024

☒ Identified a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious cover

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide an update on previous incomplete milestones, or provide any additional details, please use the box below:

Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- ☒ Kept records relating to the permit available for 5 years and made available to the public
- ☒ The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
  - ○ This is not applicable because we do not have sanitary sewer
  - ○ This is not applicable because we did not find any new SSOs
  - ◉ The updated SSO inventory is attached to the email submission
  - ○ The updated SSO inventory can be found at the following website:
- ☒ Updated system map due in year 2 as necessary
- ☐ Provided training to employees involved in IDDE program within the reporting period
- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- ☐ Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- ☒ Updated inventory of all permittee owned facilities as necessary
- ☒ O&M programs for all permittee owned facilities have been completed and updated as necessary
- ☒ Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- ☒ Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- ☒ Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town does not currently have any municipal sites with SWPPPs in place. The DPW Facility is currently under construction, but a SWPPP will be developed for that facility once construction is complete. During Permit Year 5, the Town will also be re-evaluating the long-term use of town-owned property on Ryder Street that has been leased to other entities to determine if a SWPPP is needed for this site based on its intended use going forward. IDDE and Good Housekeeping Training were conducted in person at Arlington Town Hall on August 5, 2022 just after the end of the reporting period for Permit Year 4. There were 16 municipal employees that attended the training.

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time

☐ Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Annual pet waste management message was distributed on June 15, 2022.

On the Town's website where information is posted regarding dog license renewals, the Town references Town Bylaw Title VIII, Article 2, Section 3, which states that "it is the duty of any person controlling a dog to remove and properly dispose of waste left by that dog on the sidewalk, street or any other public land. When walking your pet, always remember a bag for pet waste! Individuals failing to clean up after their pet may be fined $75 for their first offence, with each offence resulting in an increasing fine."

There are currently 21 locations in the Town's Septic System Inventory. As specific parcels are sold or significant is proposed, they are required to connect to the Town's sewer system.

Chloride

☐ Completed the Salt Reduction Plan due in Year 3, updated if necessary

- ○ The Salt Reduction Plan is attached to the email submission
- ○ The Salt Reduction Plan can be found at the following website:

Annual Requirements

Public Education and Outreach

☐ Included an annual message in November/ December to private road salt applicators and commercial industrial site owners on the proper storage and application rates of winter deicing material, along with the steps that can be taken to minimize salt use and protect local waterbodies

Please fill out the following information on salt usage over Year 4 of the permit. Be sure to include units for amount of salt:

Type(s) of salt applied:

Amount of salt applied:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The chloride impairment for Alewife Brook was a newly identified impairment in Permit Year 4, as it is included on the Final Massachusetts Integrated List of Waters for the 2018/2020 Reporting Cycle, which was approved by EPA in February 2022. As such, the Town plans to develop the required Chloride Reduction Plan by February 2025, which is within the 3-year period allotted for plan development under the permit.

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Phosphorus Source Identification Report

☒ Completed the Phosphorus Source Identification Report

- ○ The Phosphorus Sourchace Identification Report is attached to the email submission
- ◉ The Phosphorus Source Identification Report can be found at the following website:

https://www.arlingtonma.gov/departments/public-works/engineering/stormwater-information

Potential structural BMPs

☐ Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The estimated phosphorus removal associated with existing structural BMPs has been calculated for some municipal stormwater treatment structures in town. However, the Town is still working to refine this information and expand this analysis. As the Town moves forward with developing and implementing their Phosphorus Control Plan for the portion of the town within the Charles River Watershed, the Town will track and estimate the phosphorus removed by each BMP including reporting the BMP type, total area treated, design storage volume, and the estimated phosphorus removed in mass per year.

The Town does also have direct discharges to water bodies that are impaired for phosphorus or that are tributary to water bodies that are impaired for phosphorus without an approved TMDL. Appendix H requires the Town to track and estimate the amount of phosphorus removed by structural BMPs installed as a result of

the retrofit inventory conducted as a part of the Phosphorus Source Identification Report developed for the portion of the town within the Mystic River Watershed. As required by the permit, at least one structural BMP must be installed by the end of Permit Year 6. Appendix H does not require permittees to estimate the amount of phosphorus removed by existing structural BMPs -- that is only a requirement for permittees discharging to a waterbody with an existing TMDL for phosphorus. However, once the Town begins installation of structural BMPs as identified in their Phosphorus Source Identification Report, the Town will track and estimate the phosphorus removed by each BMP consistent with Attachment 3 to Appendix F. In recent years, the Town has received grant funding from various sources to retrofit their existing catch basins with stormwater infiltration trenches. These retrofits have been focused on the portion of the Town's drainage system within the Mystic River Watershed. Phosphorus reduction calculations associated with these infiltration trenches is ongoing and will be reported in the Permit Year 5 Annual Report. In 2021, the Town installed 30 infiltration trenches. In 2022, the Town installed an additional 24 infiltration trenches throughout town with funding received as part of a 319 grant. The Town received additional grant funding from CZM recently, which will be utilized to install additional infiltration trenches during Permit Year 5.

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads

- ◉ The street sweeping schedule is attached to the email submission
- ○ The street sweeping schedule can be found at the following website:

Please see attached Street Sweeping Optimization Plan Addendum, which is in the process of being updated.

☒ Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town has a comprehensive and aggressive street sweeping program that includes sweeping public streets and private ways at least twice per year. In addition, a number of streets and municipal parking lots are targeted for weekly sweeping during fall and spring sweeping operations.

The Town has a second cleaning planned for Fall 2022 to target catch basins where sumps were more than 50% full during catch basin cleaning conducted in the spring/summer of 2022.

Charles River Watershed Phosphorus TMDL

☒ Defined the scope of the Phosphorus Control Plan (PCP). *Please select one of the following:*

- ◉ The PCP scope is the entire area within our jurisdiction within the Charles River Watershed
- ○ The PCP scope is the urbanized area portion of our jurisdiction within the Charles River Watershed

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Both of the above items are true, as the entire area under the Town's jurisdiction within the Charles River Watershed is urbanized.

NON-TRADITIONAL AND TRANSPORTATION MS4s ONLY- municipalities please skip this section:

☐ Estimated the current impervious area of permittee owned property, determined the Land Use information for permittee owned property, calculated the phosphorus removal in pounds per year for any structural BMP owned by the permittee in accordance with Appendix F Attachment 3, and recorded the date of last maintenance activity for all structural BMPs for which phosphorus removal is calculated

- ○ The above information is attached to the email submission
- ○ The above information can be found at the following website:

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- (●) Yes
- ( ) No

If yes, describe below, including any relevant impairments or TMDLs:

The Town has made changes to their list of outfalls, receiving waters and impairments since the NOI was originally submitted. These changes have come as a result of mapping updates made during outfall inspections and catchment investigations, and are documented in the SWMP. The chloride impairment for Alewife Brook was a newly identified impairment in Permit Year 4, as it was included on the Final Massachusetts Integrated List of Waters for the 2018/2020 Reporting Cycle, which was approved by EPA in February 2022.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed **during this reporting period**: 8

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

BMP: 1-1: Place Educational Information on the Town's Website - Leaf Litter

Message Description and Distribution Method:

The Town posted educational information regarding leaf litter and its impacts on stormwater quality on the Town's website.

Targeted Audience: Residents

Responsible Department/Parties: Department of Public Works; Engineering Division; Town Public Informatio

Measurable Goal(s):

The Town posted a message on their website in an effort to reach a broad audience.

Message Date(s): The message was posted on November 17, 2021.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: 1-2: Pamphlets/Brochures

Message Description and Distribution Method:

The DPW makes informational flyers about the Town's hazardous waste and recycling programs available to residents at its office.

Targeted Audience: Residents, Small Businesses

Responsible Department/Parties: Department of Public Works, Arlington Recycling Committee

Measurable Goal(s):

The Town makes residents and small businesses aware of household hazardous waste disposal days by posting information on the Town's website and at the DPW Facility to reach a wide audience.

Message Date(s): Permit Year 4

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: 1-3: Stormwater Website -Fertilizer Flyer

Message Description and Distribution Method:

The Town of Arlington, along with the Spy Pond Committee, distributed a flyer regarding fertilizer runoff (and pet waste) and management tips/techniques.

Targeted Audience: Residents

Responsible Department/Parties: Spy Pond Committee, DPW, Conservation Committee

Measurable Goal(s):

The Spy Pond Committee printed and distributed 7,000 flyers.

Message Date(s): March 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:1-4: Stormwater Website -Grass Clippings

Message Description and Distribution Method:

The Town posted educational information regarding grass clippings and their potential stormwater impacts on their website.

Targeted Audience: Residents

Responsible Department/Parties: Engineering

Measurable Goal(s):

The message was posted on the Town's website to reach a broad audience.

Message Date(s): The message was posted to the Town's website on May 25, 2022.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:1-5: Stormwater Website -Dog Waste

Message Description and Distribution Method:

The Town placed educational information regarding dog waste and its impacts on stormwater and receiving water quality on its website.

Targeted Audience: Residents

Responsible Department/Parties: Engineering

Measurable Goal(s):

Information regarding pet waste management was placed on the Town's website to reach a broad audience.

Message Date(s): The message was posted to the Town's website on June 15, 2022.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:1-6: Fertilizer Management 6/15/2022

Message Description and Distribution Method:

The Town placed information regarding fertilizer management and its impacts on stormwater and receiving water quality on their website.

Targeted Audience: Residents

Responsible Department/Parties: Engineering

Measurable Goal(s):

Information regarding fertilizer use was placed on the Town's website to reach a broad audience.

Message Date(s): This message was posted to the Town's website on June 15, 2022.

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:1-7: Construction Site Runoff - Flyer

Message Description and Distribution Method:

The Town provided a link to the Think Blue Massachusetts Construction Flyer on their website. This flyer targets construction operations, and provides information on how to limit the discharge of pollutants during construction activities.

Targeted Audience: Developers (construction)

Responsible Department/Parties: Conservation Committee

Measurable Goal(s):

This flyer targets developers, and was placed on the Town's website so that this information would be readily available to developers.

Message Date(s): Permit Year 4

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP:1-8: Stormwater Awareness Series

Message Description and Distribution Method:

The Town of Arlington hosted a total of 18 different stormwater management sessions educating all audiences on green infrastructure, stormwater pollution and the role every one plays in mitigating stormwater pollution. These 18 sessions are all video links and were posted to the Town's website between April 17, 2012 to October 13, 2015.

Targeted Audience: Businesses, Institutions and Commercial Facilities, Residents, Developers

Responsible Department/Parties: Conservation Committee

Measurable Goal(s):

These videos remained on the Town's website during Permit Year 4 so that they could be readily accessed by the general public.

Message Date(s): Permit Year 4

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period**:

The Town's SWMP was maintained on the Town's website during Permit Year 4, and available for public review and comment. In addition, the Town's Year 1, 2 & 3 Annual Reports were also available on the Town's website.

Was this opportunity different than what was proposed in your NOI? Yes ○ No ◉

Describe any other public involvement or participation opportunities conducted **during this reporting period**:

The Town hosted a public walking tour for the community to learn about the Town's nature-based stormwater management systems (porous pavement, infiltration trenches, rain gardens) on May 6, 2022. There were 20 people in attendance for this event.

Arlington continued to participate in the Mystic River Watershed Collaborative, which ran an educational advertising campaign through ThinkBlue Massachusetts from May 31 to June 17, 2022. Facebook and Instagram sponsored videos and YouTube pre-roll ads were used to help viewers visualize how trash, pet waste, and motor oil become stormwater pollution. This video was also distributed in Spanish. While ad impressions targeted members of all communities in the Mystic River Watershed Collaborative, 17,511 Facebook and Instagram ad impressions and 29,176 YouTube ad impressions were attributed to Arlington residents. The Spanish translation of the video was viewed 6,151 times. The ad campaign was followed by a survey of residents in all targeted communities-- those who remembered seeing the ad were more likely to know that stormwater pollution ends up in local waterways and more likely to consider polluted runoff a serious environmental threat.

Arlington also participated in several watershed volunteer groups, including: Friends of Spy Pond Park, Friends of Menotomy Rocks Park, and the Arlington River Committee. The main goals of these volunteer groups is to build community participation in maintaining the natural landscape and enhance water quality in the respective receiving waters. These groups host recurring meetings (open to the public) where various water health parameters are discussed. They also organize several volunteer events to foster more public interaction and appreciation for these waters, including but not limited to: hosting volunteer vegetation clean-up and reseeding events, Girl Scout participation in the creation of signs for the parks/paths, and bringing in researchers to collect basic water quality data to aid in decision-making.

The Town coordinated 8 Household Hazardous Waste Collection Days during Permit Year 4. The Town uses

these events to raise awareness throughout the community about the potential impacts hazardous household materials have on water quality when not stored or disposed of properly.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period**.*

Number of SSOs identified: 5

Number of SSOs removed: 5

MS4 System Mapping

Optional: Provide additional status information regarding your map:

Arlington completed its Phase I map as required during Permit Year 2, and already has developed a comprehensive drainage map that meets Phase II mapping requirements of the MS4 Permit as well. Arlington continued to update its MS4 map as necessary during Permit Year 4 as a result of ongoing field investigations. MS4 mapping is updated as any unmapped or incorrectly mapped stormwater infrastructure is encountered in the field. MS4 mapping is also updated as a result of new development and redevelopment work.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

○ No outfalls were inspected

◉ The outfall screening data is attached to the email submission

○ The outfall screening data can be found at the following website:

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened: 9

*Below, report on the percent of outfalls/interconnections screened **to date**.*

Percent of outfalls screened: 100

Optional: Provide additional information regarding your outfall/interconnection screening:

All of the Town's regulated outfalls under municipal jurisdiction were screened during Permit Year 3 under dry weather conditions. The Town initiated wet weather screening and sampling of outfalls and interconnections during Permit Year 4. Nine (9) outfalls were sampled during wet weather.

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- ○ No catchment investigations were conducted
- ◉ The catchment investigation data is attached to the email submission
- ○ The catchment investigation data can be found at the following website:

*Below, report on the number of catchment investigations completed **during this reporting period**.*

Number of catchment investigations completed this reporting period: 4

*Below, report on the percent of catchments investigated **to date.***

Percent of total catchments investigated: 3

Optional: Provide any additional information for clarity regarding the catchment investigations below:

Per the permit, the Town is only reporting that catchment investigations are complete in catchments where outfalls/interconnections have been screened during dry weather, where key junction manholes in these catchments have been screened, and where wet weather sampling has been completed, and where all results indicated no evidence of likely sewer input based on field observations and sampling. Most outfalls in Arlington have at least one System Vulnerability Factor, therefore wet weather outfall/interconnection sampling must be conducted for catchment investigations to be considered complete. Sampling data for all catchments investigated during the reporting period, including those where wet weather sampling has not yet been completed, is attached to this email submission.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- ○ No illicit discharges were found
- ◉ The illicit discharge removal report is attached to the email submission
- ○ The illicit discharge removal report can be found at the following website:

*Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period.***

Number of illicit discharges identified: 1

Number of illicit discharges removed: 1

Estimated volume of sewage removed: 5 gallons/day

*Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.*

Total number of illicit discharges identified: 1

Total number of illicit discharges removed: 1

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

An illicit discharge was identified in the drainage catchment area for Outfall OF-6 based on sampling results and visual evidence from dry weather outfall screening and catchment investigations, and was isolated to a storm drain on Woodside Road. CCTV footage of the sanitary sewer on this street showed that a sewer main parallel to the storm drain was collapsing. This damaged sewer segment was replaced by the Town. After the sewer segment was replaced by the Town, the adjacent storm drain was sandbagged to isolate flow in the storm drain for follow-up testing. No flow was observed behind the sand bag after 24-hours confirming that the source of the illicit connection had been removed when the sanitary sewer was repaired. The illicit discharge removal report is attached separately to the e-mail submission with this Annual Report.

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period**:

Due to the ongoing Covid-19 pandemic, municipal employee training for Illicit Discharge Detection & Elimination was delayed during Permit Year 4 and held on August 5, 2022. The Town's preference was to have an in-person training, and due to instances of Covid-19, the training was delayed until after the Year 4 reporting period had ended. There were 16 municipal employees that attended the IDDE training.

MCM4: Construction Site Stormwater Runoff Control

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed: 33

Number of inspections completed: 34

Number of enforcement actions taken: 13

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

Of the site plan reviews, 25 were approved bylaw reviews, 6 were Conservation Commission Construction Site Stormwater Site Plan Reviews, and 2 were miscellaneous development reviews. The site inspections count includes bottom of trench and installation inspections. There were 13 enforcement actions taken during the reporting period, which involved violation letters sent for lack of erosion controls and improper materials management.

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance or Regulatory Mechanism

Date update was completed (due in year 3):	Stormwater Management Bylaw updates were approved at Town Meeting on April 26, 2021. Accompanying Stormwater Rules & Regulations were effective as of April 8, 2022.

As-built Drawings

*Below, report on the number of as-built drawings received **during this reporting period**.*

Number of as-built drawings received: 9

Optional: Enter any additional information relevant to the submission of as-built drawings:

Retrofit Properties Inventory

Below, list the permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (at least 5):

Site #1: Department of Public Works Facility (51 Grove Street)
Site #2: Arlington High School (869 Massachusetts Avenue)
Site #3: Cooke's Hollow
Site #4: Meadowbrook Park
Site #5: North Union Playground
Site #6: Bishop School Field
Site #7: Spring Valley Street
Site #8: Herbert Street at Magnolia Street Playground & Field
Site #9: Lewis Avenue, Phillips Street & Franklin Street Intersection
Site #10: Infiltration Trenches - Various Sites

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected: 3,047

Number of catch basins cleaned: 3,009

Total volume or mass of material removed from all catch basins: 0 [Select Units]

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 3,752

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

For catch basins that were more than 50% full during two consecutive cleanings, the Town has scheduled a second cleaning in the fall for these catch basins. Please see attached Catch Basin Cleaning Plan Addendum.

Street Sweeping

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

- (●) Number of miles cleaned: 1,812
- ( ) Volume of material removed: [Select Units]
- ( ) Weight of material removed: [Select Units]

Stormwater Pollution Prevention Plan (SWPPP)

*Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.*

Number of site inspections completed: 0

Describe any corrective actions taken at a facility with a SWPPP:

The miles reported above for street sweeping are lane miles.

The Town's DPW Facility is currently under construction. With an estimated construction completion date of Fall 2023, a SWPPP will be developed for this facility at that time. In the mean time, the site is covered under a SWPPP developed to meet Construction General Permit requirements. During Permit Year 5, the Town will also be re-evaluating the long-term use of town-owned property on Ryder Street that has been leased to other entities to determine if a SWPPP is needed for this site based on its intended use going forward. Arlington will begin quarterly site inspections once SWPPPs are developed.

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- (●) Not applicable
- ( ) The results from additional reports or studies are attached to the email submission
- ( ) The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

COVID-19 Impacts

Optional: If any of the above year 4 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Please see Covid-19 impacts as noted elsewhere in the Town's Annual Report.

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 5 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

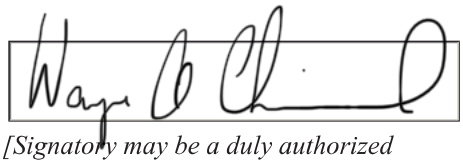
Provide any additional details on activities planned for permit year 5 below:

The vacant Environmental Planner position was filled during Permit Year 4. The Engineering Division and Environmental Planner will continue to have meetings weekly during Permit Year 5 to address and formulate plans to meet the requirements of the Permit. These brainstorming sessions allow the Town to consider options, alternatives and adjust plans through a wide lens and overview.

Part V: Certification of Small MS4 Annual Report 2022

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Wayne Chouinard, PE	Title:	Town Engineer
Signature:		Date:	9/28/2022

[Signatory may be a duly authorized representative]

TOWN OF ARLINGTON
Department of Public Works
51 Grove Street
Arlington, Massachusetts 02476
Office(781) 316-3320 Fax (781) 316-3281

Engineering Division

2022 MS4 Annual Report
Year #4
Catch Basin Cleaning Optimization Plan - Addendum

September 28, 2022

Year #4

The Town of Arlington Annual Catch Basin Maintenance Program typically begins in April. Cleaning of catch basins includes data collection for the measurement of sediment depth at each basin. Catch Basins that are identified as being filled with sediment > 50% of the sump depth are planned for cleaning typically beginning in September.

2022 Catch Basin Cleaning Summary

- The first cleaning program for 2022 consisted of a total of 3,009 catch basins cleaned.
- An additional 1,383 Catch basins are planned for cleaning beginning in October 2022.

Weston & Sampson SM

55 Walkers Brook Drive, Suite 100, Reading, MA 01867
Tel: 978.532.1900

MEMORANDUM

TO: Wayne Chouinard, PE; Bill Copithorne, PE, Town of Arlington

FROM: Jaurice A. Schwartz, PE; Andrew P. Gaughan, EIT

DATE: May 18, 2022

SUBJECT: Arlington – Woodside Lane Illicit Discharge Removal Report

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While conducting Illicit Discharge Detection and Elimination (IDDE) field investigations in compliance with the Town's MS4 Permit, a potential non-stormwater discharge was identified in the catchment area for OF-6, which discharges to Mill Brook. While investigating potential sources of illicit discharges in OF-6's catchment area, each key junction manhole was sampled if flow was initially observed, or sandbagged and subsequently sampled for dry weather flow, if flow was observed behind the sandbag after a 24-hour period. One key junction drain manhole, swDMH-1791, at the intersection of Woodside Lane and Vista Circle, was opened and sandbagged for 24-hours. Upon opening the manhole to remove the sandbags, a fecal odor was noticed as well as water marks on the side wall and outlet of swGD-3896, which consists of a 12-inch reinforced concrete pipe emanating from the direction of Woodside Lane. After the 24-hour period, approximately 2 gallons of flow was found behind the sandbag and sampled. Sampling results for flow observed at swDMH-1791 are summarized in the table below.

Parameter	Concentration for Sample Collected on October 14th, 2021	Benchmark Criteria
Ammonia	10.0 mg/L	>0.5 mg/L
Surfactants	3 mg/L	>0.25 mg/L
Chlorine	0.00 mg/L	>0.02 mg/L
E.Coli	>2420 CFU/100 mL	235 CFU/100mL
Temperature	69 °F (Temps. for other samples taken during this timeframe were similar)	>83°F
Specific Conductance	1,170 μs/cm	>2,000 μs/cm

The Town's MS4 Permit defines flow with likely sewer input as meeting one or more of the following criteria:

- Olfactory or visual evidence of sewage;

- Ammonia ≥ 0.5 mg/L, Surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water; and/or
- Ammonia ≥ 0.5 mg/L, Surfactants ≥ 0.25 mg/L, and detectable levels of chlorine

The sample collected met the criteria for likely sewer input outlined above by exceeding the thresholds for E. Coli, ammonia, and surfactants, while also having olfactory and visual evidence of sewage.

The Town's past sewer inspection records were analyzed, including prior CCTV inspection video, which showed various sewer defects, including cracked and partially collapsed segments of pipe in sewer segment SSGM-656 running parallel to swGD- 3896. To confirm the defects observed and evaluate whether the pipe had further deteriorated, a zoom camera inspection, capable of clearly filming the interior of the pipe up to 100-feet from the manhole, confirmed the defect. The collapsed sewer segment was replaced in October 2021 by the Town's Water Department. The sanitary sewer and storm drain on Woodside Lane were again CCTV inspected. There was no evidence of sewer exfiltrating into the storm drain. A sandbag was subsequently placed in swDMH-1791 for 24-hours to isolate any dry weather flow originating from swGD-3896. The sandbag was removed, and there was no flow observed behind the sandbag. As a result of the repair made to the sanitary sewer, the illicit connection to the storm drain system was removed.

SSO Inventory - Permit Year 4
Arlington, MA

Location	Discharge Point	Date	Time Start	Time End	Estimated Volume	Description	Mitigation Completed
45 Kimball Road	Back up into property basement	7/14/2021	5:00 PM	10:00 PM	10 Gallons	Continuous rain caused system to surcharge	Homeowner contacted a cleaning company. No corrective actions were taken.
Manhole at the end of Kimball Road	Ground surface	9/2/2021	9:00 AM	11:30 AM	100 Gallons	Continuous rain caused system to surcharge	Disinfected area with biodegradable sanitizing virucide cleaner.
Chestnut Terrace. Chestnut Manor Lateral into Manhole	Ground surface	11/30/2021	11:35 AM	11:55 AM	50 Gallons	Sanitary wipes causing blockage	Jet towards blockage from nearest downstream manhole. Disinfected area with biodegradable sanitizing virucide cleaner. Modified schedule for sewer line frequency of cleaning and maintenance. Informed Chestnut Manor that sewer lateral and sewage grinders need cleaning.
79 Spy Pond Parkway	Backup into property	1/10/2022	11:00 AM	11:50 AM	301 Gallons	water main break infiltrating sewer main	Shut down water main and conducted repairs, cleaned sewer manholes in the affected area.
2 Sheraton Park	Backup into property	1/10/2022	11:00 AM	11:50 AM	50 Gallons	water main break infiltrating sewer main	Shut down water main and conducted repairs, cleaned sewer manholes in the affected area.

Engineering Division

TOWN OF ARLINGTON
Department of Public Works
51 Grove Street
Arlington, Massachusetts 02476
Office (781) 316-3320 Fax (781) 316-3281

2022 Street Sweeping Optimization Plan Addendum

The Arlington Department of Public Works completed the street sweeping requirements for the Year 4 permit. All street sweeping was performed by Snow Plow route and coordinated on the GIS Map.

DPW Street Sweeping Procedures:
DPW adheres to the following street sweeping procedures:

Spring street sweeping operations: All streets are swept once in the spring, typically when snow and weather conditions allow. Typically beginning in mid-March.

Fall street sweeping operations: All streets are swept once in the fall, typically when snow and weather conditions allow. Typically, up to end of December.

Once street sweeping operations commence, the DPW performs additional street sweeping every week on the following roadways:

- Mass Ave.(3.83mi.)
- Grove St. (0.28mi.)
- Brattle St. (0.33mi.)
- Summer St. (2.03mi.)
- Forest St. (0.94mi.)
- Park Ave.Ext.(0.49mi.)
- Lowell St. (0.66mi.)
- Paul Revere Rd.(0.42mi.)
- Park Ave.(0.47mi.)
- Appleton St.(1.33mi.)
- Pleasant St.(0.87mi.)
- Mystic St.(1.53mi.)
- Lake St.(0.93mi.)
- Broadway(1.0mi.)
- Warren St.(0.54mi.)
- Chestnut St. (0.22mi.)
- Municipal Parking Lots (0.58mi.equiv)

As part of MCM Section 6 the following is required: ***Sweep all streets and permittee-owned parking lots in accordance with permit conditions***

2022 Annual Street Sweeping Summary for permit period July 1, 2021, to June 30, 2022

Spring – beginning mid-March (x2)
a. All streets are swept
i. Public Ways: 93.25 miles (186.5 lane miles)
ii. Private Ways: 22.28 miles (44.56 lane miles)
Fall – beginning mid-March (x 1)
b. All streets are swept
i. Public Ways: 93.25 miles (186.5 lane miles)
ii. Private Ways: 22.28 miles (44.56 lane miles)

Additional Sweeping – 34 weeks (34 x 32.91 lane miles): 558.47 miles (1,118.94 lane miles)

Total Streets swept for permit period July 1, 2021 to June 30, 2022: Total = ~1,812 lane miles

Wet Weather Outfall Sampling Results -Permit Year 4
Arlington, MA

Outfall ID	Receiving Water	Location	48-Hour Precipitation Data	Weather Conditions	Wet Weather Sampling Date							
					Wet Weather Sampling Date	E.coli (CFU/100mL)	Surfactants (mg/L)	Ammonia-Nitrogen (mg/L)	Total Chlorine (mg/L)	Conductivity (µs/cm)	Salinity (ppm)	Temperature (F)
OF-74	MILL BROOK	Old Colony Lane	0.69	80°F & Raining	6/9/2022	>2420	0.5	0.2	0	1013	566.51646	70
OF-104	MILL BROOK	Ryder Street	0.69	80°F & Raining	6/9/2022	>2420	0.25	0	0.19	972	543.50686	68
OF-8	MILL BROOK	Drake Road	0.69	80°F & Raining	6/9/2022	>2420	0.37	0.8	0	29.7	16.55062	65
OF-46	MILL BROOK	Mill Lane	0.69	80°F & Raining	6/9/2022	>2420	0.7	0.4	0.02	324	180.74485	65
OF-47	MILL BROOK	Mill Lane	0.69	80°F & Raining	6/9/2022	>2420	0.5	0.3	0.08	215	119.89137	65
OF-103	MILL BROOK	Ryder Street	0.69	80°F & Raining	6/9/2022	>2420	0.3	0.1	0	430	239.9695	69
OF-34	MILL BROOK	1 Watermill Place	0.69	80°F & Raining	6/9/2022	>2420	0.25	0.6	0.07	48.4	26.97321	68
OF-10	MILL BROOK	Lowell Street	0.69	80°F & Raining	6/9/2022	>2420	0.25	0.3	0	60.3	33.6065	65
OF-29	MILL BROOK	993 Massachusetts Avenue	0.69	80°F & Raining	6/9/2022	>2420	0.25	0	0.04	725	405.3176	72

Catchment Investigation Results - Permit Year 4
Arlington, MA

Catchment	Drain ID	Screening & Sampling Time	Flow Description	Flow amount (GPM)	Submerged	E. Coli (mpn/100mL)	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Comments
OF-6	swGD-3896	10/14/21 10:11 AM	Trickling	2	No	>2420	10	3	0	Likely a sewer break in this area. Sewage odor, visual evidence in sample and an active leak from manhole wall.
OF-6	swGD-3897	10/14/21 12:00 PM	None	-	No	-	-	-	-	-
OF-6	swGD-3850	10/14/21 9:58 AM	Trickling	3	No	>2420	0	0.25	0	No evidence
OF-6	swGD-3943	10/14/21 11:45 AM	None	-	No	-	-	-	-	No evidence
OF-6	swGD-3939	10/14/21 11:50 AM	None	-	No	-	-	-	-	No evidence
OF-6	swGD-3851	10/14/21 10:01 AM	None	-	No	-	-	-	-	-
OF-8	swGD-6127	8/4/21 12:56 PM	None	-	No	-	-	-	-	No evidence
OF-8	swGD-6293	8/3/21 12:53 PM	Trickling	1	No	6.3	1.5	2	0.01	Iron matter floating in sample cup, odor of organic sewerage, orange color in sample bottle. Coming from The large apartment building, did not go any closer due to concerns of ownership.
OF-11	swGD-1938	8/4/21 10:45 AM	None	-	No	-	-	-	-	No evidence
OF-11	swGD-1939	8/4/21 10:10 AM	Trickling	10	No	1733	10	0.5	0.04	No evidence
OF-11	swGD-1941	8/12/21 8:13 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4552	8/12/21 8:28 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4554	8/12/21 8:24 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4556	8/11/21 8:25 AM	Trickling	2	No	>2420	2	0.5	0.02	No evidence
OF-11	swGD-4558	8/12/21 8:21 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4561	8/12/21 8:31 AM	None	-	-	-	-	-	-	No evidence
OF-11	swGD-4562	8/12/21 8:30 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4564	8/12/21 8:30 AM	None	-	No	-	-	-	-	-
OF-11	swGD-4573	8/12/21 8:15 AM	None	-	No	-	-	-	-	-
OF-13	swGD-1339	10/13/21 8:45 AM	Moderate	5	No	75	0	0.25	0	No evidence
OF-13	swGD-1174	10/13/21 9:25 AM	Trickling	3	No	225	0	0.25	0	-
OF-13	swGD-5679	10/13/21 9:11 AM	Moderate	5	No	9	0	0.25	0.25	-
OF-13	swGD-1279	10/14/21 9:32 AM	None	-	No	-	-	-	-	-
OF-13	swGD-1346	10/14/21 9:21 AM	None	-	No	-	-	-	-	No evidence
OF-13	swGD-1345	10/14/21 9:22 AM	None	-	No	-	-	-	-	No evidence
OF-13	swGD-1168	8/12/21 8:15 AM	-	-	-	-	-	-	-	-
OF-14	swGD-6294	8/12/21 8:56 AM	None	-	No	-	-	-	-	-
OF-14	swGD-6296	8/13/21 8:56 AM	None	-	No	-	-	-	-	-
OF-14	swGD-6298	8/11/21 12:19 PM	Moderate	5	No	238	0	0.25	0.01	-
OF-14	swGD-6299	8/12/21 10:03 AM	Moderate	5	No	24	0	0.25	0.06	No evidence
OF-14	swGD-6301	8/12/21 11:30 AM	Trickling	5	No	<1	0	0.25	0.03	No evidence
OF-14	swGD-6302	8/28/21 8:30 AM	None	-	No	-	-	-	-	-
Of-14	swGD-6303	8/28/21 8:40 AM	None	-	No	-	-	-	-	No evidence
OF-14	swGD-3677	8/3/21 2:12 PM	Moderate	20	No	161	0	0.25	0	No evidence - Flow is very fast
Of-14	swGD-3685	8/12/21 12:16 PM	Trickling	1	No	105	0	0.5	0.04	No evidence
OF-14	swGD-3695	8/4/21 12:02 PM	None	-	No	-	-	-	-	No evidence
OF-14	swGD-3696	8/4/21 12:00 PM	None	-	No	-	-	-	-	No evidence
OF-14	swGD-3698	8/13/21 7:18 AM	None	-	-	-	-	-	-	-
OF-14	swGD-3701	8/13/21 7:22 AM	None	-	No	-	-	-	-	No evidence
OF-14	swGD-3705	8/11/21 11:36 AM	Moderate	15	No	197	0	0.37	0.02	-
OF-14	swGD-3707	8/13/21 7:17 AM	None	-	No	-	-	-	-	-
OF-14	swGD-3710	8/12/21 8:43 AM	None	-	No	613	0.1	0.5	0	After is a bit opaque, light white color
OF-14	swGD-3715	8/12/21 9:00 AM	None	-	No	-	-	-	-	-
OF-14	swGD-3717	8/12/21 8:51 AM	None	-	No	-	-	-	-	-
OF-14	swGD-3721	8/13/21 7:06 AM	None	-	No	-	-	-	-	-
OF-14	swGD-3723	8/13/21 7:05 AM	None	-	No	-	-	-	-	-
OF-14	swGD-3736	8/12/21 9:10 AM	None	-	No	-	-	-	-	No evidence
OF-14	swGD-3737	8/12/21 9:09 AM	None	-	No	-	-	-	-	-
OF-14	swGD-4302	8/12/21 11:33 AM	None	-	Yes - 5"	-	-	-	-	Stagnant water & Algae
OF-14	swGD-4303	8/13/21 7:12 AM	None	-	No	-	-	-	-	-
OF-14	swGD-4305	8/12/21 11:06 AM	Moderate	5	Yes - 5"	205	0	0.25	0	Stagnant water
OF-14	swGD-4327	8/12/21 9:45 AM	None	-	No	-	-	-	-	-
OF-14	swGD-4328	8/12/21 9:53 AM	None	-	-	-	-	-	-	-
OF-14	swGD-4332	8/12/21 9:44 AM	None	-	No	-	-	-	-	-
OF-14	swGD-4333	8/12/21 9:26 AM	Trickling	5	No	>2420	0	0.25	0	About 3 gallons of sandbagged flow.
OF-14	swGD-4336	8/11/21 12:56 PM	Moderate	10	No	53	0.1	0.37	0.06	-
OF-14	swGD-4338	8/11/21 12:47 PM	None	-	Yes - 5"	-	-	-	-	Surcharged
OF-14	swGD-4343	8/11/21 12:26 PM	Moderate	10	No	44	0.1	0.25	0.19	-
OF-14	swGD-4350	8/12/21 10:17 AM	Trickling	3	No	53	0	0.25	0.05	-
OF-14	swGD-4351	8/12/21 9:18 AM	None	-	No	-	-	-	-	-
OF-14	swGD-4353	8/11/21 1:16 PM	Trickling	5	No	23	0.2	0.25	0	-
OF-16	swGD-6039	8/26/21 12:39 PM	Moderate	10	No	37	0	0.25	0.04	-
OF-16	swGD-6040	8/28/21 7:58 AM	None	-	No	-	-	-	-	-
OF-28	swGD-5512	8/12/21 7:52 AM	None	-	No	-	-	-	-	-

Catchment Investigation Results - Permit Year 4
Arlington, MA

Catchment	Drain ID	Screening & Sampling Time	Flow Description	Flow amount (GPM)	Submerged	E. Coli (mpn/100mL)	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Comments
OF-28	swGD-5853	8/12/21 7:53 AM	None	-	No	-	-	-	-	No evidence
OF-29	swGD-1371	10/13/21 10:22 AM	Trickling	5	No	276	0	0.25	0	-
OF-29	swGD-1386	10/14/21 9:14 AM	None	-	No	-	-	-	-	-
OF-32	swGD-1457	10/14/21 8:55 AM	None	-	No	32	0	0.25	0	-
OF-32	swGD-1468	10/14/21 9:07 AM	None	-	No	-	-	-	-	-
OF-32	swGD-5063	10/14/21 9:56 AM	None	-	No	-	-	-	-	-
OF-33	swGD-262	8/4/21 9:50 AM	None	-	No	-	-	-	-	No evidence
OF-33	swGD-266	8/4/21 9:51 AM	None	-	No	-	-	-	-	No evidence
OF-33	swGD-115	8/4/21 9:25 AM	None	-	No	-	-	-	-	No evidence
OF-33	swGD-182	8/4/21 9:35 AM	None	-	No	-	-	-	-	No evidence
OF-33	swGD-185	8/4/21 9:45 AM	None	-	No	-	-	-	-	No evidence
OF-33	swGD-186	8/4/21 9:55 AM	None	-	No	-	-	-	-	No evidence
OF-50	swGD-4097	8/26/21 10:28 AM	Trickling	2	No	261	0	0.25	0	No odor or visual indicators.
OF-50	swGD-4110	8/27/21 8:52 AM	None	-	No	-	-	-	-	-
OF-50	swGD-4114	8/27/21 8:46 AM	None	-	No	-	-	-	-	-
OF-50	swGD-4132	8/26/21 11:33 AM	None	-	No	260	0.1	0.25	0	-
OF-50	swGD-4140	8/27/21 9:00 AM	None	-	No	-	-	-	-	-
OF-50	swGD-4155	8/28/21 10:15 AM	None	-	No	-	-	-	-	-
OF-50	swGD-4156	8/27/21 9:02 AM	None	-	No	-	-	-	-	-
OF-50	swGD-4157	8/28/21 12:32 PM	None	-	No	-	-	-	-	-
OF-57	swGD-2973	10/8/21 11:47 AM	None	-	No	-	-	-	-	-
OF-57	swGD-2959	10/8/21 10:36 AM	None	-	No	-	-	-	-	-
OF-66	swGD-3270	10/14/21 7:57 AM	None	-	No	-	-	-	-	-
OF-66	swGD-5598	10/14/21 7:56 AM	None	-	No	-	-	-	-	-
OF-66	swGD-796	10/14/21 10:36 AM	Trickling	3	No	150	0.2	0.25	0	-
OF-66	swGD-5597	10/15/21 11:00 AM	None	-	No	-	-	-	-	-
OF-70	swGD-5038	8/28/21 3:20 AM	None	-	No	-	-	-	-	-
OF-70	swGD-5039	8/28/21 2:45 AM	None	-	No	-	-	-	-	-
OF-70	swGD-5040	8/28/21 1:52 AM	None	-	No	-	-	-	-	-
OF-70	swGD-5046	8/11/21 9:34 AM	Moderate	15	No	285	0	0.25	0.09	No evidence
OF-70	swGD-3345	8/13/21 7:32 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3346	8/12/21 1:18 PM	Moderate	20	No	>2420	0	0.25	0	No evidence. SSO reported in this area
OF-70	swGD-5830	8/13/21 7:40 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3394	8/27/21 7:26 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3396	8/13/21 7:53 AM	Moderate	10	No	179	0.1	0.25	0	No evidence
OF-70	swGD-3400	8/27/21 7:25 AM	None	-	No	-	-	-	-	No evidence
OF-70	swGD-3401	8/28/21 7:45 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3409	8/27/21 7:23 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3495	8/26/21 9:03 AM	None	-	No	-	-	-	-	No evidence
OF-70	swGD-3499	8/26/21 8:35 AM	Moderate	10	No	866	0	0.25	0.07	Sump pump tied in
OF-70	swGD-3507	8/26/21 9:55 AM	None	-	No	-	-	-	-	No evidence
OF-70	swGD-3513	8/27/21 7:41 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3524	8/27/21 7:42 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3530	8/26/21 9:15 AM	Trickling	5	No	30	0	0.25	0	-
OF-70	swGD-3536	8/26/21 8:20 AM	Trickling	4	No	>2420	0.3	0.37	0.06	-
OF-70	swGD-3539	8/26/21 8:09 AM	Trickling	4	No	548	0.6	0.37	0	-
OF-70	swGD-3549	8/13/21 8:12 AM	Trickling	5	No	219	0	0.37	0.09	-
OF-70	swGD-3663	8/27/21 8:00 AM	None	-	No	-	-	-	-	-
OF-70	swGD-3670	8/27/21 7:59 AM	None	-	No	-	-	-	-	-
OF-70	swGD-5828	8/13/21 7:31 AM	None	-	No	-	-	-	-	-
OF-74	swGD-1536	10/14/21 11:42 AM	None	-	No	-	-	-	-	No evidence
OF-90	swGD-6304	10/8/21 7:43 AM	None	-	No	-	-	-	-	-
OF-90	swGD-2871	10/8/21 9:54 AM	None	-	No	-	-	-	-	-
OF-90	swGD-2872	10/8/21 10:14 AM	None	-	No	-	-	-	-	-
OF-90	swGD-2873	10/8/21 10:22 AM	None	-	No	-	-	-	-	-
OF-90	swGD-2878	10/8/21 7:43 AM	None	-	No	-	-	-	-	-
OF-90	swGD-2879	8/26/21 1:44 PM	Moderate	15	No	<1	0.1	0.25	0.5	Heavy flow no odor or visual indicators. Splash pad upstream had a catch basin collecting flow that directly tied into this line. The splash pad was turned off and a majority of the flow in this line was gone
OF-90	swGD-2881	8/27/21 8:34 AM	None	-	No	-	-	-	-	-
OF-101	swGD-4465	10/14/21 11:33 AM	None	-	No	-	-	-	-	-
OF-101	swGD-4470	10/7/21 11:36 AM	Moderate	6	No	1410	1.5	0.75	0.02	-
OF-103	swGD-4176	10/13/21 8:09 AM	Moderate	10	No	192	0	0.25	0.04	Constant flow. Can not locate any manholes upstream, suspected to be buried in the field
OF-161	swGD-209	8/4/21 9:15 AM	None	-	No	-	-	-	-	Soil in manhole- no evidence in the manhole no pipes sandbagged, could not access
OF-161	swGD-218	8/3/21 7:43 AM	Trickling	1	No	1414	2.5	0.25	0	Slow moving brownish water, with sediment in manhole
OF-161	swGD-219	8/4/21 8:25 AM	None	-	Yes	-	-	-	-	No evidence

Catchment Investigation Results - Permit Year 4
Arlington, MA

Catchment	Drain ID	Screening & Sampling Time	Flow Description	Flow amount (GPM)	Submerged	E. Coli (mpn/100mL)	Ammonia (mg/L)	Surfactants (mg/L)	Chlorine (mg/L)	Comments
OF-161	swGD-221	8/4/21 8:30 AM	None	-	No	-	-	-	-	Standing water in manhole
OF-161	swGD-228	8/3/21 9:57 AM	Trickling	1	No	>2420	0.2	0.25	0	-
OF-161	swGD-230	8/4/21 8:15 AM	None	-	No	-	-	-	-	-
OF-161	swGD-231	8/4/21 12:22 PM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-232	8/3/21 10:08 AM	None	-	Yes - 1"	-	-	-	-	Water was flowing down stream of this structure
OF-161	swGD-233	8/3/21 10:22 AM	Trickling	1	No	1064	0.3	0.5	0.04	-
OF-161	swGD-234	8/3/21 11:22 AM	Trickling	1	No	308	1	0.75	0.07	-
OF-161	swGD-235	8/3/21 11:02 AM	Trickling	1	No	1120	0.2	0.25	0.03	-
OF-161	swGD-237	8/4/21 12:11 PM	None	-	No	-	-	-	-	-
OF-161	swGD-239	8/4/21 12:31 PM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-240	8/4/21 9:00 AM	None	-	No	-	-	-	-	Large metal plate at the bottom of the manhole
OF-161	swGD-241	8/3/21 12:15 PM	None	-	Yes - 4"	-	-	-	-	Surcharged
OF-161	swGD-242	8/4/21 12:43 PM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-243	8/4/21 9:10 PM	None	-	No	-	-	-	-	-
OF-161	swGD-283	8/4/21 9:01 AM	Trickling	10	No	152	0.4	0.25	0	Lab results returned the data as SWGD-253, this is labeled incorrectly and should be swGD -283. Water was clear, approximately 10 gallons. Upstream catch basin is full of water
OF-161	swGD-291	8/3/21 12:16 PM	None	-	Yes -3"	-	-	-	-	No evidence
OF-161	swGD-292	8/4/21 9:00 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-319	8/4/21 8:40 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-320	8/4/21 8:40 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-4851	8/4/21 8:45 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-4852	8/4/21 8:45 AM	None	-	No	-	-	-	-	-
OF-161	swGD-4853	8/4/21 8:45 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-4854	8/4/21 8:45 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5513	8/4/21 8:20 AM	None	-	No	-	-	-	-	-
OF-161	swGD-5518	8/4/21 8:35 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5519	8/4/21 8:35 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5522	8/4/21 8:20 AM	None	-	No	-	-	-	-	-
OF-161	swGD-5524	8/4/21 8:20 AM	None	-	No	-	-	-	-	-
OF-161	swGD-5527	8/4/21 8:15 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5528	8/4/21 8:15 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5529	8/4/21 8:15 AM	None	-	No	-	-	-	-	No evidence
OF-161	swGD-5535	8/3/21 8:10 AM	None	-	Yes -3"	-	-	-	-	No evidence, surcharged towards the catch basin
OF-161	swGD-5536	8/4/21 8:00 AM	None	-	No	-	-	-	-	No evidence
OF-163	swGD-5548	10/14/21 1:25 AM	None	-	No	-	-	-	-	-
OF-163	swGD-5567	10/14/21 1:25 AM	None	-	No	-	-	-	-	-
OF-163	swGD-344	10/15/21 12:00 PM	None	-	-	-	-	-	-	-
OF-163	swGD-343	10/15/21 12:11 PM	None	-	No	-	-	-	-	-
OF-163	swGD-1537	10/15/21 12:22 PM	None	-	No	-	-	-	-	-
OF-165	swGD-5588	10/7/21 8:35 AM	Moderate	8	No	921	0	0.25	0	Manhole needs maintenance
OF-165	swGD-474	10/7/21 8:46 AM	Moderate	10	No	55	0	0.25	0.1	-
OF-167	swGD-3062	10/7/21 9:38 AM	Moderate	10	No	770	0.2	0.25	0	Opaque water
OF-167	swGD-3057	10/7/21 9:50 AM	Trickling	1	No	2420	0.1	0.5	0.19	-
OF-167	swGD-3068	10/7/21 10:13 AM	Trickling	3	No	1300	0.1	0.75	0.25	-
OF-167	swGD-3069	10/8/21 8:16 AM	None	-	No	-	-	-	-	-
OF-167	swGD-3058	10/8/21 8:20 AM	None	-	No	-	-	-	-	-
OF-167	swGD-3088	10/7/21 10:37 AM	None	-	No	-	-	-	-	-
OF-167	swGD-3070	10/8/21 9:45 AM	None	-	No	-	-	-	-	-
OF-167	swGD-3055	10/8/21 8:50 AM	None	-	No	-	-	-	-	-
OF-372	swGD-475	10/8/21 8:01 AM	None	-	No	-	-	-	-	-
OF-372	swGD-4868	10/8/21 8:02 AM	None	-	No	-	-	-	-	-
OF-372	swGD-487	10/8/21 8:09 AM	None	-	No	-	-	-	-	-
OF-372	swGD-488	10/8/21 8:10 AM	None	-	No	-	-	-	-	-
OF-372	swGD-484	10/8/21 8:08 AM	None	-	No	-	-	-	-	-